Paper 74

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

RANDOLPH **NOELLE**

Junior Party,
(Application 08/742,480),

v.

RICHARD J. **ARMITAGE**,
WILLIAM C. FANSLOW, and MELANIE K. SPRIGGS

Senior Party,
(Application 09/322,021).

Patent Interference No. 104,724

Before: TORCZON, LANE, and NAGUMO, Administrative Patent Judges.

NAGUMO, Administrative Patent Judge.

ON REQUESTS FOR CLARIFICATION AND FOR RECONSIDERATION OF JUDGMENT ON PRELIMINARY MOTIONS

A. Findings of Fact

Armitage's Request for clarification

1. Armitage has filed a request for clarification of our decision mailed October 28, 2002 (Paper No. 63, hereafter, "Judgment"). (*See* Paper No. 64.) In particular, Armitage notes that we referred to Armitage's fact 5 for the proposition that

Noelle conceded that it did not know the DNA sequence corresponding to the MR1 antibody, whereas fact 5 states that Noelle had admitted that it had not obtained the sequence of mouse CD40L, the antigen to which the MR1 antibody binds.

2. Armitage observes that Armitage fact 32 states that "[t]he Noelle Application does not describe or enable the DNA sequence (genes) of any Mab which binds to mouse CD40L," and notes that Noelle has admitted this "fact."

3. Armitage suggests that we relied on fact 32, rather than on fact 5, for the finding cited *supra*.

4. Noelle does not contest this request, subject to its request for reconsideration of our judgment. (Paper No. 68.)

Noelle's request for reconsideration of Judgment

5. Noelle argues that the panel made factual findings in support of its judgment that were not supported by the evidence. (Paper No. 65, hereafter, "Request," at 1.)

6. In particular, Noelle argues that the panel found, without adequate support in the record, that the DNA sequence of the genes encoding anti-CD40L monoclonal antibodies would have been required by a person of ordinary skill to produce chimeric antibodies. (*Id.*)

7. Noelle argues further that there is an inadequate evidentiary basis to find that the quantity and nature of experimentation to produce chimeric antibodies is undue. (*Id.*)

8. Noelle argues further that there is no basis in the record on which to find that the unpredictability of the interaction of T cells and B cells rendered unpredictable methods to obtain and use chimeric antibodies. (*Id.*)

9. Noelle concludes that Armitage failed to carry its burden of proving that the claims are not enabled for chimeric monoclonal antibodies to CD40L. (*Id.* at 2.)

10. Authorizations were granted for an opposition and a reply, which were filed in due course. (Paper Nos. 71 and 73.)

The arguments before the Board

Armitage's preliminary motion

11. Armitage moved as follows:

> All of the designated Claims of the Noelle Application are generic to any kind of Mab, including chimeric antibodies. As a result, as discussed in detail below, they lack written description and are indefinite and not enabled. Hence, they are unpatentable under 35 U.S.C. § 112, first paragraph.
>
> More specifically, an "antibody" is a protein which consists of 2 light chains (L) and 2 heavy chains (H) which are bound by disulfide bonds to form a "Y"-like structure. Each light chain contains a variable region (V_L) and a constant region (C_L), and each heavy chain contains a variable region (V_H) and a constant region (C_H).
>
> A "chimeric antibody" is typically an antibody which contains components from two different species, e.g., mouse variable regions and human constant regions.
>
> The Noelle Application teaches that "chimeric antibodies" are produced by methods which require that

> one be in possession of the DNA molecules encoding the light and heavy chains of the Mab.
>
> Again, in related Interference 104,415 (Noelle v. Lederman) counsel for Noelle admitted that even in 2001, Noelle does not know the structure of the claimed Mab or care what its structure is. Thus, Noelle was clearly not in possession of the DNA molecules encoding its Mab even in 2001, much less at the time of its invention.
>
> The Noelle Application does not describe or enable the DNA sequence (genes) of any Mab which binds to mouse CD40L.
>
> Thus, since Noelle's claims encompass chimeric antibodies, they are unpatentable under 35 U.S.C. § 112, first paragraph.

(Armitage Preliminary Motion No. 1, Paper No. 25 at 16-17, citations to fact statements omitted.)

12. This argument may be summarized as follows: Armitage first construes Noelle's claims as encompassing chimeric monoclonal antibodies, and then defines the terms "antibodies," and "chimeric antibodies." Armitage then argues that Noelle teaches that chimeric antibodies are produced by methods that require that one be in possession of DNA encoding the chains of the antibody, and notes that Noelle has admitted that it does not know the structure (the amino acid sequence) of the claimed monoclonal antibody, and argues further that Noelle was not in possession of the required relevant DNA. Armitage then concludes, *inter alia*, that Noelle's claims are not enabled.

Noelle's opposition

13. Noelle responded as follows:

> Armitage alleges that because the claims of the Noelle application encompass chimeric antibodies, which would have been impossible to produce using the information available in the Noelle specification since the sequences of the antibody were not known, they are not patentable. The fact that Noelle did not have possession of the MR1 antibody sequence [is] irrelevant to whether chimeric antibodies are described or enabled. *The Noelle application does not teach that chimeric antibodies are produced by methods which require DNA molecules.* Armitage has strategically misquoted the application, which teaches that chimeric antibodies may be produced by "techniques known in the art, such as" those requiring DNA molecules (emphasis added). Thus, the teaching and description includes all methods which were known in the art.
>
> Chimeric antibodies, well known in the art prior to February 14, 1992, as acknowledged by Armitage include antibodies that contain proteins or components from different species. Armitage again has mischaracterized this definition, stating that it is limited to antibodies produced using molecular biological methods requiring sequence information. The definition is a broad one: chimeric antibodies containing components from different species, such as human heavy chains and mouse light chains, are clearly part of this definition, as would be understood by the person of ordinary skill reading the Noelle specification. *Such chimeric antibodies were obtainable using standard biochemical methods known to persons of ordinary skill in 1992 without having to first obtain the DNA molecule of any antibody component.* Persons of ordinary skill in the art, therefore, would [have] understood the description of the Noelle specification to include chimeric antibodies and would have considered it mere routine to produce the chimeric antibodies described in the specification. Chimeric antibodies therefore are described and enabled by the Noelle application.

(Noelle Opposition, Paper No. 36 at 18; italics added, underscore original, record cites omitted.)

14. In the first paragraph, Noelle appears to argue that enablement of its claims to chimeric monoclonal antibodies does not depend on whether it possessed the MR1 antibody sequence or the corresponding DNA molecules because "[t]he Noelle application does not teach that chimeric antibodies are produced by methods which require DNA molecules." Noelle then appears to argue that there are other techniques to make chimeric Mabs: "the teaching and description includes all methods which were known in the art." Noelle expands this argument in the second paragraph, appearing to argue that chimeric antibodies can be produced by methods that do not require sequence information. Most specifically, Noelle argues that "[s]uch chimeric antibodies were obtainable using standard biochemical methods known to persons of ordinary skill in 1992, without having to first obtain the DNA molecule of any antibody component." Noelle then argues that persons of ordinary skill in the art would have considered it "mere routine to produce the chimeric antibodies described in the specification."

Armitage's reply

15. Armitage replied as follows:

> B. As to the issue of "chimeric antibodies", Noelle alleges that <u>one</u> type of chimeric antibody (a mixture of light and heavy chains from two species) can be produced using standard biochemical techniques.

> Noelle has failed to provide any evidence, e.g., literature evidence or evidence in the Noelle Declaration, to support its assertion regarding such use of "standard biochemical techniques," as required by 37 CFR § 1.639. Noelle's assertion is nothing more than attorney argument, and thus is not entitled to any weight. [Citations omitted.]
>
> In any event, the Noelle Application disclosure must be commensurate with the scope of Noelle's claims. Noelle admits that a different, second type of chimeric Mab (which contains variable regions from one species and constant regions from another species), which is produced using molecular biology techniques requiring DNA sequence information of the antibody components, is encompassed by its claims (NO, p. 18). However, the Noelle Application fails to describe any DNA sequence information to enable using molecular biology techniques to make such chimeric antibodies. Thus the Noelle Application is not enabling for the full scope of its claims.

(Armitage reply, Paper No. 39 at 7-8; underscore original.)

B. Discussion

Request for clarification

We confirm Armitage's statements in its request for clarification, and correct our decision at 14, ll. 2-3, to state that we relied on Armitage's fact 32, not on Armitage's fact 5. Thus, the citation to the record should read in full: "(NOPP1 at 3, admitting Armitage's fact 32 (APM1 at 10).)"

Request for reconsideration

We have, at Noelle's behest, reviewed the record and our decision. We conclude that Noelle has not established harmful error that compels a different judgment.

As we observed (Judgment, facts 32-34 at 7-8), the Noelle specification refers only to Morrison (AX1018 and AX1019) as providing a method for obtaining chimeric monoclonal antibodies. Based on Noelle's disclosure, one skilled in the art would reasonably conclude that Morrison's method is the most preferred method for obtaining chimeric monoclonal antibodies. Noelle has never disputed that its specification does not disclose any sequence information regarding the protein (antibody) or the nucleic acid (DNA or RNA) coding for the protein. Moreover, Noelle's specification and the record developed during this proceeding are silent as to any particular method of making monoclonal chimeric antibodies by any technique that does not require detailed manipulation of the relevant DNA.

When challenged by Armitage's preliminary motion 1 that its claims lacked enablement for chimeric monoclonal antibodies commensurate in scope with the claimed subject matter, Noelle did not argue in its opposition, as it does now, that Armitage had failed to establish that undue experimentation was required to obtain the DNA necessary to use Morrison's method. Rather, Noelle argued that Armitage attempted to mislead the Board by misquoting Noelle's specification and ignoring the implication of the introductory phrase, "such as," that there were other techniques besides the recited recombinant DNA techniques taught by Morrison, by which one could obtain chimeric antibodies. In

Noelle's words, these other unnamed techniques would yield (chimeric) monoclonal antibodies "without having to first obtain the DNA molecule of any antibody component." Noelle concluded that persons of skill in the art "would have considered it mere routine to produce the chimeric antibodies described in the specification," and that the challenge to enablement should be denied.

The first time Noelle raised its present objection that Armitage had not supported its lack of enablement argument with evidence of undue experimentation was at oral argument, as we noted in our decision. (Judgment at 14.) But, particularly in light of the argument it made in its opposition that knowledge or possession of the relevant DNA was unneccesary because there were other methods of obtaining chimeric monoclonal antibodies, this argument came far too late in the day. *Carbino v. West*, 168 F.3d 32, 34 (Fed. Cir. 1999) (A late or improper presentation of an argument—even on a question of law—need not, and ordinarily should not, be considered.) Indeed, Noelle appears to continue its argument: "Armitage argues that Noelle did not enable the DNA sequences of the MAbs, but adduced no evidence that such sequences were required to practice the Morrison et al. methods." (Request at 7.) We are at a loss to understand how anyone could read Morrison and conclude that the relevant DNA sequences are not required to practice the Morrison methods. To the extent

that Noelle may be attempting to distinguish between "possession" of DNA sequences (i.e., the ability to select and fuse the desired subsequences, and to then express the ultimate sequence) and knowledge of the particular codons that make up the sequences, we dismiss the argument as both untimely and without merit.

We considered the disclosures of the specifications related to the determination of DNA sequences corresponding to proteins. Noelle is silent as to the particular constitution of CD40L or the corresponding monoclonal antibodies; and it is silent as to the DNA corresponding to either. Armitage, by contrast, devotes many pages of text in its "Detailed Description of the Invention" to the various manipulations required to obtain and then express DNA corresponding to desired proteins. Armitage also provides numerous working examples of the preparation of DNA constructs of various fusion proteins. (We rely on the text of U.S. Patent No. 5,961,974, issued to Armitage et al., which is said to be the parent application, by continuation, of 09/322,021, Armitage's involved application. (Paper No. 1 at 4.) Armitage's involved application has not been introduced as an exhibit in this proceeding.) Although none of these examples are devoted to making DNA for chimeric antibodies, they are relevant to the extent that they relate to the effort required to obtain DNA coding for disparate proteins, to fuse appropriate segments of

DNA, and then to express the corresponding proteins and check for effective function.

Armitage's report of a great deal of experimentation in a highly technical field, particularly when it is well known that "a patent need not teach, and preferably omits, what is well known in the art," *Hybritech v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), weighs more than the bare assertion in Noelle's specification that a desired result may be obtained by "well known methods." Contrary to Noelle's argument that there is *no* evidence in favor of nonenablement, we found that the considerable and detailed effort reported in the specification of Armitage's involved patent was greater than the unsupported generalities stated in the specification of Noelle's application. Thus, to the extent that Noelle is arguing that Armitage has not shown that more than routine experimentation is required to obtain the DNA necessary to practice Morrison's methods with other antibodies, we observe that the preponderance of the evidence of record weighs in favor of nonenablement.

Noelle attempts to inflate our observation that the general field of the invention is the "extremely complex and as yet incompletely understood interactions between T cells and B cells" beyond a general characterization of the nature of the present invention (*Wands* factor (4)). The disclosures of the parties

support our characterization. Despite the considerable efforts of both parties, neither purports to have proven a model of the mechanism by which the antibody binding to CD40CR inhibits B cell activation. The relatively unexplored character of an as yet incompletely understood art calls for more disclosure than is required in a well understood art. In this case, this factor is not dispositive, but it weighs more against than for enablement of chimeric antibodies as claimed by Noelle.

ORDER

Upon consideration of senior party Armitage's request for clarification, it is

ORDERED that the judgment (Paper No. 63) is corrected at page 14, lines 2-3, so the record citation reads:

(NOPP1 at 3, admitting Armitage's fact 32 (APM1 at 10).)

Upon consideration of junior party Noelle's Request for reconsideration of judgment on preliminary motions, it is:

ORDERED that the request is DENIED;

FURTHER ORDERED that our decision that Noelle is not entitled to a patent containing claims 42, 43, 46-48, 50, 54, and 57 is MAINTAINED;

FURTHER ORDERED that if there is a settlement agreement, attention is directed to 35 U.S.C. § 135(c) and 37 C.F.R. § 1.661; and

FURTHER ORDERED that a copy of this decision be given a paper number and be entered in the administrative records of Noelle' application 08/742,480 and of Armitage's application 09/322,021.

RICHARD TORCZON
Administrative Patent Judge

SALLY GARDNER LANE
Administrative Patent Judge

MARK NAGUMO
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

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